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EXAMINER

SANTIAGO CORDERO, MARIVELISSE

ART UNIT PAPER NUMBER

2617

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,033

Applicant(s)

HIGGINS ET AL.

Examiner

Marivelisse Santiago-Cordero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 12, 13, 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12-13, and 15-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-8, 10, 12-13, and 15-16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 8, 10-12-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 8, the limitation "each radio having different audio optimization parameters than the accessory and each radio having different audio optimization parameters from each other" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is welcomed to point out where in the specification the Examiner can find support for this limitation, if Applicant believes otherwise.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10, 12-13, and 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "the receive audio parameters" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 15, the limitation "each audio accessory" (line 5) is unclear because the term "each" suggests that there exists more than one audio accessory; however, the claim previously stated only one audio accessory (see e.g., the preamble and line 2). Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong (cited in form PTO-892, paper no. 20050617) in views of Curtiss (cited in form PTO-892, paper no. 20050617) and Rabinowitz et al. (hereinafter "Rabinowitz"; Pub. No.: US 2003/0179891).

Regarding claim 1, Wong discloses an audio accessory optimization system (Abstract), comprising:

a radio (Fig. 1, reference numeral 110; col. 2, lines 24-28) having a controller (Fig. 1, reference 204); and

an audio accessory coupled to the radio (Fig. 1, reference numerals 120 and 130; col. 2, lines 28-34), the audio accessory being controllerless (Fig. 2, reference 120), the audio accessory including an embedded memory coupled to the radio controller (Figs. 2 and 3, reference numeral 220), the embedded memory containing audio optimization parameters to enable the radio to optimize the accessory audio performance (Abstract: Fig. 3, reference numeral 220).

Wong fails to disclose wherein the audio optimization parameters include a microphone acoustic model of microphone behavior as a function of accessory position.

However, Curtiss discloses wherein the audio optimization parameters include a microphone acoustic model of microphone behavior (paragraphs [0034] and [0043]-[0044]; note that the control data defines microphone and speaker behavior (paragraph [0043]) which includes, but is not limited to, echo canceller operations, number of multipaths, echo intensity, filter settings or coefficients, noise reduction system operation parameters and duration of operation, volume settings and number of steps, volume power levels, the tone or frequency response of a device, stereo mute options, volume tables (paragraph [0034]); hence, acoustic model of microphone behavior).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the audio optimization parameters of Wong a microphone acoustic model of microphone behavior as suggested by Curtiss for the advantages of providing the microphone's individual and unique performance characteristics (Curtiss: paragraph [0043]).

Wong in view of Curtiss fail to specifically disclose microphone behavior as a function of accessory position.

However, it was notoriously well known in the art at the time of invention by applicant to recognize microphone behavior as a function of accessory position for the advantage of minimizing undesirable interference, such as, background noise. Nonetheless, Rabinowitz discloses a microphone acoustic model of microphone behavior as a function of accessory position (Abstract; Fig. 5; page 5, paragraph [0036]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the microphone behavior of Wong in combination with Curtiss as a function of accessory position as suggested by Rabinowitz for the advantages of minimizing undesirable interference, such as, background noise.

Regarding claim 2, in the obvious combination, Wong discloses wherein the radio is a portable radio (Fig. 1, reference numeral 110; col. 2, lines 28- 34).

Regarding claim 3, in the obvious combination, Wong discloses wherein the radio is a mobile radio (Fig. 1, reference numeral 110).

Regarding claim 4, in the obvious combination, Wong discloses wherein the information contained in the embedded memory is organized in a hierarchical fashion (Fig. 3).

Regarding claim 5, in the obvious combination, Curtiss discloses wherein the information contained in the embedded memory is used to create an encrypted digital signature that is also stored in the embedded memory (page 7, paragraphs [0066] and [0068]; note that the security information is being interpreted as the digital signature).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to use the information contained in the embedded memory of Wong to create an encrypted digital signature that is also stored in the embedded memory as suggested by Curtiss for the advantages of controlling or limiting the use of the accessory, reduce theft or instances of stolen communication services, inhibit use of counterfeit or un-licensed accessories with the electronic device (Curtiss: page 7, paragraph [0066]).

Regarding claim 6, in the obvious combination, Curtiss discloses wherein the embedded memory uses a single wire bus data communication means (paragraph [0041]). Therefore, it

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would have been obvious to one of ordinary skill in this art at the time of invention by applicant to use a single wire bus data communication means as suggested by Curtiss for the advantages of being widely available and a well-known industry standard bus.

Regarding claim 7, in the obvious combination, Curtiss discloses wherein the single wire bus data communication means comprises a 1-Wire® bus (paragraph [0041]) being obvious for the same reasons and motivations stated above for claim 6.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in view of Rabinowitz.

Regarding claim 8, Wong discloses an audio accessory optimization system (Abstract), comprising: an audio accessory (Fig. 1, reference numerals 120 and 130; col. 2, lines 28-34) having content information stored therein (Fig. 3, reference numerals 302-314), the audio accessory being controllerless (Fig. 2, reference 120), the content information for conveying information pertaining to the accessory's audio characteristics (Fig. 3, reference numerals 302-314), the accessory for coupling to any one of a plurality of radios (Figs. 1-2, reference numeral 110; note that a plurality of radios is inherently present since it would be unwise to limit the use of an audio accessory to just one radio), each radio having different audio optimization parameters than the accessory (col. 1, lines 20-32) and each radio having different audio optimization parameters from each other (col. 1, lines 10-32), wherein each of the plurality of radios includes a controller (Fig. 2, reference 204) that detects the content information and optimizes the audio of the accessory in response thereto (col. 4, lines 24-53), wherein the content information includes variations in transmit audio parameters (Fig. 3 and col. 3, lines 21-47).

Wong fails to specifically disclose as a function of accessory microphone position.

However, it was notoriously well known in the art at the time of invention by applicant to vary transmit audio parameters as a function of accessory microphone position for the advantage of minimizing undesirable interference, such as, background noise.

Nonetheless, Rabinowitz discloses variations in transmit audio parameters as a function of accessory microphone position (Abstract; Fig. 5; page 5, paragraph [0036]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the variations in transmit audio parameters of Wong as a function of accessory microphone position as suggested by Rabinowitz for the advantages of minimizing undesirable interference, such as, background noise.

8. Claims 10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in combination with Rabinowitz as applied to claim 10 above and further in view of Curtiss.

Regarding claim 10, Wong in combination with Rabinowitz disclose receive audio parameters (Wong: col. 3, lines 20-28), but fail to specifically disclose wherein the receive audio parameters include at least one of: power amplifier mode, line mode, transducer load impedance, maximum output level, effective sound pressure level (SPL), and cone envelope parameters.

However, Curtiss discloses wherein the receive audio parameters include at least one of: power amplifier mode, line mode, transducer load impedance, maximum output level, effective sound pressure level (SPL), and cone envelope parameters (paragraphs [0034], [0043]-[0044], and [0050]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the receive audio parameters of Wong in combination with

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Rabinowitz at least one of: power amplifier mode, line mode, transducer load impedance, maximum output level, effective sound pressure level (SPL), and cone envelope parameters as suggested by Curtiss for the advantages of providing the transducer individual and unique performance characteristics (Curtiss: paragraph [0043]).

Regarding claim 12, in the obvious combination, Rabinowitz discloses wherein the transmit audio parameters includes at least one of: minimum microphone bias voltage, maximum microphone bias voltage, microphone electrical model parameters, microphone sensitivity, and microphone acoustic model (Abstract; Fig. 5; page 5, paragraph [0035]); obvious for the advantages of providing the microphone's individual and unique performance characteristics.

Regarding claim 13, in the obvious combination, Rabinowitz discloses wherein the microphone acoustic model includes at least one of: sensor type and response variation with distance (page 5, paragraph [0035]); obvious for the same reasons and motivations stated above for claim 12.

9. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong in views of Rose et al. (Pub. No.: US 2002/0046022) and Ludvigsen (Pub. No.: US 2003/0002698).

Regarding claim 15 Wong discloses an audio accessory, comprising audio optimization parameters stored in the audio accessory (Abstract: Fig. 3, reference numeral 220), the audio accessory being controllerless (Fig. 2, reference 120); and the audio accessory for coupling to a variety of different radios (Fig. 1, reference numeral 110; col. 1, lines 10-35; note that a variety of different radios is inherently present in the reference since it would be unwise to limit the use of an audio accessory to just one type of radio), each radio having a controller (Fig. 2, reference 204) and each audio accessory having different audio characteristics (Abstract; col. 1, lines 10-

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35; note that each radio having different audio characteristics is inherently present since it discloses that the parameters help characterize the audio response or impact on audio signals within the electronic device, i.e., the radio), the audio accessory being automatically adjusted by each radio controller based on the audio parameters stored in the audio accessory (col. 3, lines 9-39; col. 4, lines 24- 53).

Wong fails to disclose wherein the audio optimization parameters include an acoustic model of microphone frequency response and sensitivity for the audio accessory as function of microphone position and at least one of: audio interface type, number of audio modes and signaling configuration, and duplex capability.

However, Rose discloses wherein the audio optimization parameters include an acoustic model of microphone frequency response for the audio accessory as function of microphone position and at least one of: audio interface type, number of audio modes and signaling configuration, and duplex capability (paragraph 0047)).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the audio optimization parameters of Wong an acoustic model of microphone frequency response and sensitivity for the audio accessory as function of microphone position and at least one of: audio interface type, number of audio modes and signaling configuration, and duplex capability as suggested by Rose for the advantages of adjusting for differing response characteristics (Rose: paragraph [0048]) and providing the transducer individual and unique performance characteristics while minimizing undesirable interference, such as, background noise

In addition, Ludvigsen disclose wherein the audio optimization parameters include an acoustic model of microphone sensitivity for the audio accessory as function of microphone position (paragraph [0017]).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to include in the audio optimization parameters of Wong an acoustic model of microphone sensitivity for the audio accessory as function of microphone position as suggested by Ludvigsen for the advantages of adjusting for differing response characteristics and providing the transducer individual and unique performance characteristics while minimizing undesirable interference, such as, background noise.

Regarding claim 16, in the obvious combination, Wong discloses wherein the audio accessory includes a memory device containing a plurality of descriptors that provide hierarchical information to enable radio optimization of the audio accessory audio performance (Fig. 3).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marivelisse Santiago-Cordero whose telephone number is (571) 272-7839. The examiner can normally be reached on Monday through Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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